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REMARKS

In the Office Action dated November 6, 2003, the Examiner rejects claims 2, 5, 14, 22, 25 and 27 under 35 U.S.C. § 102(e). The Examiner rejects claims 1, 4, 6, 9-12, 15, 17, 19-21, 23, 24 and 26 under 35 U.S.C. § 103(a). Finally, the Examiner objects to claims 3, 7, 13, 16 and 18 but indicates they contain allowable subject matter. With this Amendment, claims 1, 3, 5, 16, 18, 22 and 23 are amended. Claim 2 is canceled without prejudice, and claim 28 has been added. After entry of this Amendment, claims 1, 3-7 and 9-28 are pending in the Application. Reconsideration of the Application as amended is respectfully requested.

Initially, it is respectfully submitted that the Examiner has failed to acknowledge one of the responses timely filed to the last Office Action in this case. This Office Action Summary indicates that it is responsive to a communication filed on July 3, 2003. However, the Applicants submitted a timely-filed response on May 15, 2002 to the first Office Action dated April 10, 2003, in addition to the timely-filed supplemental amendment on June 30, 2003, which was received by the U.S. Patent and Trademark Office on July 3, 2003. Because they were misplaced at the USPTO, all of these documents were resubmitted to the Office on October 2, 2003, along with proofs of mailing. This Office Action should have indicated that it is a response to both communications.

The Applicants gratefully acknowledge the indication of allowable subject matter in each of claims 3, 7, 13, 16 and 18. With this Amendment, claim 3 has been placed into independent form to include the features of claim 2. As a result, claim 2 has been canceled without prejudice. Claim 16, which depended from claims 5 and 15, and claim 18, which depended from claim 5, have been amended to independent form to include the features of the claims from which each depended. With respect to allowable claims 7 and 13, the Applicants have not amended these claims to independent form to include the features of the claims from which they depend. Instead, the claims from which they depend have been revised as discussed herein.

The Examiner rejects claims 2, 5, 14, 22, 25 and 27 under 35 U.S.C. § 102(e) as being anticipated by Nishihara et al. (US 6,325,651). It is respectfully that Nishihara et al. fails to

teach or suggest the feature of any of these claims of light emitting diodes. The light emitting elements 15 of Nishihara et al. are incandescent lamps having a bulb 17 made of transparent glass with a filament 18 contained therein and conducting members respectively led our from sealing portoons formed at the two ends of the bulb 17. The bulb 17 is filled with xenon gas. (Col. 6, ll. 8-15). Although Nishihara et al. makes a single comment that light emitting diodes could be used, there is no teaching in Nishihara et al. sufficient for one of skill in the art to make and use such an embodiment. As mentioned above, claim 2 has been canceled, rendering moot the rejection of claim 2 on this basis. To further the prosecution and allowance of the instant application, claim 5 has been revised to include a feature of claim 3, which claim the Examiner indicated as containing allowable subject matter. Specifically, claim 5 now includes the feature that each of the pair of end caps is an electrical bi-pin connector. It is respectfully submitted that claim 5 and all of its dependent claims 6, 7, 14, 15, 17, 19 and 20 are allowable over the prior art of record.

With respect to claim 22 and its dependent claims 25 and 27, in addition to Nishihara et al. failing to provide an enabling disclosure of any embodiment including a light emitting diode (LED) device, it is respectfully submitted that teach or suggest the feature of original claim 22 wherein one terminal of the LED device is in electrical communication with the first prong and a second terminal of the LED device is in electrical communication with the second prong. In Nishihara et al., one terminal of the incandescent lamp 15 is connected to an adjacent incandescent lamp 15 through a conductive wire 16, while the other terminal is connected to a conductive element 21. (See Fig. 1). In addition, it is respectfully submitted that the Examiner has failed to show where Nishihara et al. teaches or suggests the feature of claim 25 of current-limiting means coupled to the at least one LED device. In fact, Nishihara et al. fails to teach or suggest such a feature. To further prosecution and allowance of the claims, the Applicants have revised claim 22 to specify that the base cap is an electrical bi-pin connector comprising a first prong and a second prong extending perpendicularly from a surface of the base cap. In addition to the foregoing reasons for patentability, Nishihara et al. fails to teach or suggest this feature. It is respectfully submitted that claims 22, 25 and 27 are allowable over the prior art of record.

The Examiner rejects claims 1, 4, 6, 9-12, 17, 19-21, 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Nishihara et al. in view of Atchinson et al. (6,371,631). The Examiner states that Nishihara et al. teaches all of the features of claim 1 and its dependent claims 4, 9-12 and 21, all of the features of claims 6, 17, 19 and 20, which depend directly and indirectly from claim 5 and all of the features of claims 23 and 24, which depend from claim 22, except for the feature that the plurality of light emitting diodes is mounted at a 90 degree angle on only one side of the circuit board and the feature that the plurality of light emitting diodes is a white LED. The Examiner states that Atchinson et al. teaches these features, and it would have been obvious to combine these features to maintain electrically connected.

As previously mentioned, and with respect to the rejections of all of these claims, Nishihara et al. fails to provide an enabling disclosure for any embodiment including light emitting diodes. It is further submitted that the only motivation to combine these two references is impermissible hindsight. Maintaining electrical connections is already performed in Nishihara et al. so there is no motivation to look anywhere else for such teachings. In any case, the use of a white LED would have no effect on maintaining electrical connections, nor would the mounting positions of light emitting diodes on a circuit board. It is further noted that Atchinson et al. fails to teach or suggest that a plurality of light emitting diodes are mounted at a 90 degree angle. To the contrary, Atchinson et al. teaches the use of surface-mounted diodes only, which cannot be said to be mounted at a 90 degree angle. In addition, while Atchinson et al. suggests that light emitting diodes having a variety of colors, including white, can be used, it is respectfully submitted that a light emitting diode that is colored white is not a white LED.

It is next submitted that, with respect to independent claim 1 and its dependent claims 4, 9-12 and 21, Nishihara et al. fails to teach or suggest the feature of claim 1 wherein a plurality of light emitting diodes is mounted on at least one circuit board. The Examiner appears to cite Atchinson et al. for this feature, but it is respectfully submitted Nishihara et al. teaches the need for position restricting elements 20 between adjacent light emitting elements 15. There is no motivation, nor is there any acceptable location, to add at least one circuit board to the design of Nishihara et al. To further prosecution and allowance of the application, the Applicants have

revised claim 1 to include the feature of claim 7 wherein each of the plurality of light emitting diodes is mounted at an angular off-set from the circuit board to establish a predetermined radiation pattern of light. The Examiner indicated in the last Office Action that claim 7 contained allowable subject matter. It is respectfully submitted that claim 1 and its dependent claims 4, 9-12 and 21 likewise contain allowable subject matter and are allowable over the prior art of record.

In addition to the foregoing, it is respectfully submitted that there is no motivation to include the feature of claim 9 wherein the plurality of light emitting diodes is mounted on only one side of the at least one circuit board or the feature of claim 10 wherein the radiation pattern of light from each of the plurality of light emitting diodes is centered at a 90° angle relative to the at least one circuit board to any permissible combination of Nishihara et al. and Atchinson et al. Nishihara et al. teaches light emitting elements 15 extending parallel along the length of the tube 11. Light is emitted in all directions external to the tube 11 in Nishihara et al. Even if there were motivation to include at least one circuit board in Nishihara et al., which there is not, one would not have been motivated to mount a plurality of light emitting diodes on only one side of the board(s) because this would change the pattern of light emitted from the tube 11 of Nishihara et al., which would be undesirable. Similarly, there would not have been any motivation to center the radiation pattern of light at a 90° angle relative to the board(s). Thus, in addition to the reasons set forth with respect to claim 1, the prior art fails to teach or suggest all of the features of claims 9 and 10. Thus, they are similarly allowable over the prior art of record.

With respect to claims 6, 17, 19 and 20, which depend directly and indirectly from claim 5, it is respectfully submitted that the cited references fail to teach or suggest the features of claim 5 as discussed above, including the feature of claim 5 that each of the pair of end caps is an electrical bi-pin connector. As the Examiner acknowledges in the indication of the allowability of claim 3, neither Nishihara et al. nor Atchinson et al. teach or suggest this feature. In addition, and as explained with respect to claim 1, the proposed combination fails to teach or suggest the feature of claim 6 wherein the plurality of light emitting diodes is mounted to a circuit board because there is no need or motivation to include such a feature in Nishihara et al. Finally, and as explained with respect to claims 9 and 10, there is no teaching or suggestion in any permissible

combination of Nishihara et al. and Atchinson et al. to include the feature of claim 19 wherein the plurality of light emitting diodes is mounted on only one side of the circuit board to emit light toward only one side of the bulb portion and the feature of claim 20 wherein the radiation pattern of light from each of the plurality of light emitting diodes is centered at a 90° angle relative to the circuit board. It is respectfully submitted that each of claims 6, 17, 19 and 20 is allowable over the prior art of record.

Claim 23 has been changed to correct a clerical error in the claim. Claim 23 adds to the improvement of claim 22 means for protection against an over-current condition. Claims 23 and 24 depend from claim 22. It is respectfully submitted that Nishihara et al. fails to teach or suggest all of the features of claim 22 as discussed above. The addition of Atchinson et al. fails to cure this deficiency, which the Examiner acknowledged by indicating the allowability of claim 3. Specifically, the combination fails to teach or suggest, *inter alia*, the feature of claim 22 that the base cap is an electrical bi-pin connector comprising a first prong and a second prong extending perpendicularly from a surface of the base cap. In addition to the failure of the prior art of record to teach or suggest all of the features of claim 22, from which claim 23 depends, it is respectfully submitted that none of the cited references, either alone or in combination, teach or suggest the feature of claim 23 of means for protection against an over-current condition. It is respectfully submitted that the invention of each of claim 23 and claim 24 is not rendered obvious by the cited references. Thus, each of these claims is allowable over the prior art of record.

The Examiner rejects claims 15 and 26 under 35 U.S.C. § 103(a) as being unpatentable over Nishihara et al. in view of Atchinson et al. The Examiner states that Nishihara et al. discloses all of the features of claim 15 except a rectifier for converting an alternating current supply to an LED. The Examiner further states that one of ordinary skill in the art would be motivated to include this feature from Atchinson et al. to Nishihara et al. to provide a low voltage range from about 3 to about 30 volts. It is respectfully submitted that, as discussed in detail above, the combination fails to teach or suggest the features of claim 5, from which claim 15 depends and fails to teach or suggest the features of claim 22, from which claim 26 depends. As the Examiner acknowledges, Nishihara et al. fails to teach or suggest the feature of claim 15

that the electric current is a direct current signal, where the improvement of claim 5 further comprises a rectifier for converting an alternating current signal from the fluorescent light fixture to the direct current signal. The Examiner also acknowledges that Nishihara et al. fails to teach or suggest the feature of claim 26 wherein the at least one LED device of the retrofit light tube of claim 22 is electrically connected to a rectifier. Although Atchinson et al. teaches that an AC/DC converter can be a source of power for its surface-mounted light emitting diodes, there is no teaching or suggestion to include this feature in Nishihara et al. The light emitting elements 15 of Nishihara et al., as incandescent bulbs, receive AC current from a commercially available AC power source connected to one of the power lines 57. (Col. 23, ll. 50-55). It is respectfully submitted that each of claim 15 and 26 is allowable over the prior art of record.

New claim 28 depends from claim 26 and adds the feature wherein the at least one LED device is further electrically connected to a pulse-width modulating circuit receiving a direct current signal from the rectified and supplying a modulated signal to the at least one LED device. It is respectfully submitted that none of the prior art references, either alone or in combination, teach or suggest the features of new claim 28.

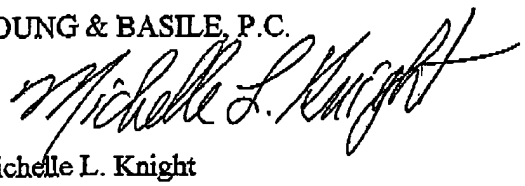
It is respectfully submitted that this Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is requested. It is respectfully submitted that this Amendment places the application in suitable condition for allowance; notice of which is requested.

Due to the substantial delay in the prosecution in this case through no fault of the Applicants, the Applicants respectfully request immediate entry of this Amendment. Further, if

the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicants' attorney at the telephone number listed below.

Respectfully submitted,

YOUNG & BASILE, P.C.



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